

ThermalTransfer Machine

TTM-1700-AM



Apply to:

TTM-1700Base

User's Manual

English

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1. Introduction

Thank you for choosing our products, TTM-17700Base is our independent development of heat transfer equipment which launch in 2014. The advantage of this equipment is that improves heat transfer rate and transfer performance. It is applied by using oil heating to control temperature, so heating fast with perfect insulating effect, greatly improving production efficiency. In addition, it is also with function that automatically blanket backward , auto-expose the liner of paper and auto-rewinding transfer paper. Make your work safe and relaxed through these user-friendly design.

To ensure the best quality of finish product and extend the life of the machine when you use thermal transfer, please carefully read this manual on the part of installation, operation, maintenance instructions. Meanwhile, in order to let you enjoy our after-sales service, please fill out the warranty card inside the operating manual and fax or courier to our company, our contact information is on the last page.

2. Safety Notice

Before the operation, please read the safety instruction carefully to fully understand the machine's primary structure, function, and operation method. If conditions permit, the training to the operators is required, and the operators, passing the examination, are allowed to operate and maintain. During the operation and maintenance, please pay attention to the warning signs, pasted to the equipment, and improve the safety awareness to prevent the accidents and to guarantee operator's personnel safety.

2.1 Safety Parts

2.1.1 Emergency Switch

There are 3 emergency switches, if pressing one of them, we will cut the power down and rotating clockwise, the switch will raise automatically. But only we repress the power switch on the main panel, the device could restart. Once emergency, press the switch please.

Note: Emergency switch is very important safety part, please check whether it is ok or not regularly.

2.1.2 Separating-blanket Switch

The Switch is on the main panel while the heat transfer finishes work, it will stop heating. And only the temperature of heating roller goes down to less than 80°C, spin the hand wheel to make blanket belt separating from the heating roller to prevent the blanket from burning.

2.1.3 Heating Roller

During heating, the surface temperature of the heating roller could be up to over 240°C. And it will alarm when temperature is up to 270°C. While it is heating, please don't touch the roller surface with any part of the body to avoid crushing or burning. When the machine is heating and operating, the operators shall be present to avoid the roller damages or the fire due to the overheating.

2.2 Warning Sign

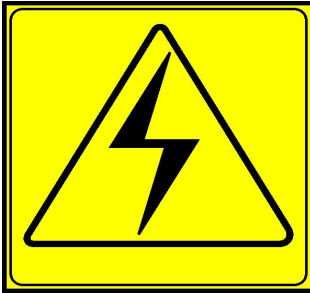
Below warning signs indicate any potential damage or injury requiring special attention.



Anti-roll in *symbol*

The sign is at the junction of upper and lower roller on two sides of machine.

The roller is dangerous when working. Please keep your hand, cloth, hair and otherbody away from contacting in order to avoid accidents.



High-voltage symbol

The symbol is inside the cabinet.

Don't touch in case risk of electric shock.

Sprocket symbol

This symbol is inside the left

Please keep your hand, cloth, the sprocket when working in



body.

hair and parts of body away from order to avoid accidents.



Anti burns symbol

This is placed at the heating roll of cabinet.

Roller is heat generating elements. Don't touch. After power off, upper roller needs much time for cooling. Don't touch immediately in case burned.

2.3 Safety Cautions

- 1) The mains supply must match the type indicated on the machine identification label. And reliable ground connection shall be ensured. (Don't change the function of grounding for three-pole plug)
- 2) The max temperature is 280°C. The default temperature is 230°C. It will alert when reach the max.
- 3) The temperature of roller surface is too high during working. Don't touch.
- 4) Before open the box to exam and fix of the equipment, the machine must be power off in order to avoid electric shock or mechanical wounding incidents. Cut off the power when the transfer is finished.
- 5) Don't place the power on the walkway or stack goods on it. Prevent the power from rolling by the vehicles.
- 6) Inverter and board should be kept clean in the body in order to avoid metallic conduction material dust falling into. Never open the protective covering, caution risk of electric shock.
- 7) The working place should be dry and ventilated. Please keep the equipment far away the water or the damp place. Don't put the inflammables or explosives around the equipment.
- 8) Don't put tools or others, such as screwdriver, screw nail and nut etc. on the

table or the surface of both stands in case the cargo falling into the roller which caused the damage.

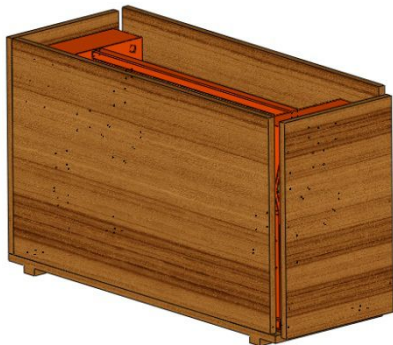
9) Don't use water to wash the machine in order to avoid the short circuit, electric shock or the corrosion.

10) The ambient temperature is -10°C to +40°C.

3. **Unpacking**

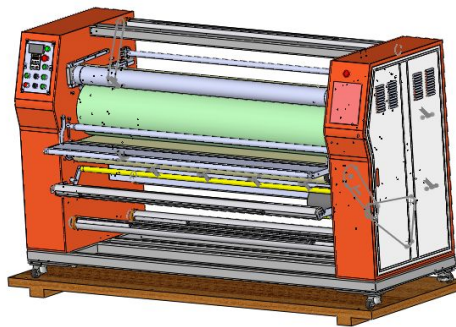


Step 1: Remove the top cover (need 12/13/14 wrench)



Step 2: Pull down the wooden side covers (use 12/13/14 wrench)

Step 3: Loosen the screw between pallet and (use 17 wrench). Move the machine by



machine forklift.

Note: This is a schematic diagram. The bolts is based on the packing dimension.

quantity of

Caution: Move the machine by forklift. Must put the bottom frame of the machine on the forklift when moving and need protection on both end. Be careful during transportation to prevent damage from falling off.

4. **Specification**

Width	1700mm	67in
Speed	0-4.2m/min	0-137in/min

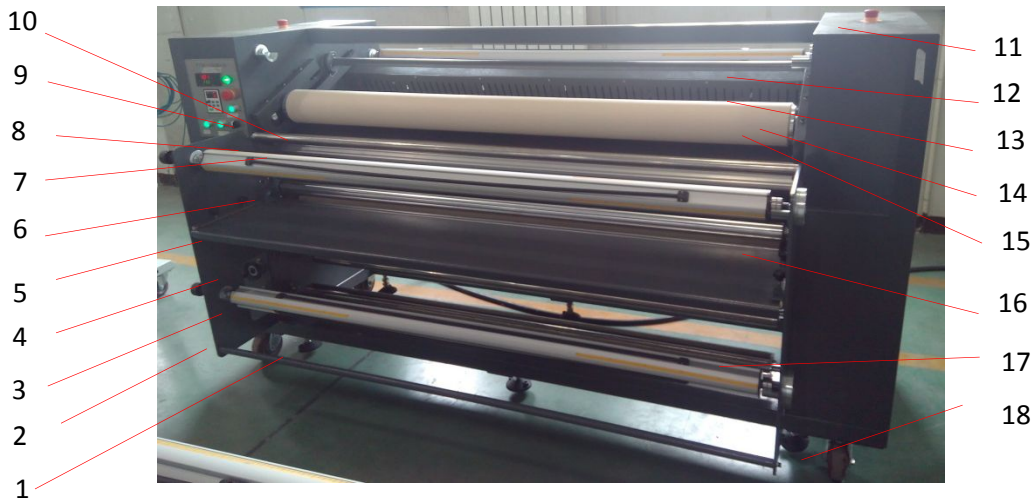
Belt size	Φ2422×1820×δ 6	95.4×71.7×0.2in
Thermal Media	Oil	
Temperature	0-250°C	
Power	18Kw	
Power Supply	230/400V,3W+N+PE	
Current	30A	
Motor Power	750W	
Machine Size	2480(L) × 1154(W) ×1348(H)	98×45×53
STOP	3	
Weight	1100Kg	

NOTE:

1. The power supply is 380V, 50A. Power code is 6mm²×3+4mm²×2.
2. The reading temperature on temperature controller is consistent with sensor AR330+ which is used by our QC department. FU1/2 is AC 250V/5A.

5. Name of all parts

5.1 Front View



1. Foot 2. Front plate 3. Shaft 4. Hand wheel 5. Working table 6. Extension shaft 7. Separate plate 8. Separate shaft 9. Protecting case 10. Thermal drum 11. Emergency switch 12. Separating-blanket shaft 13. Fan 14. Separating-belt switch 15. Blanket 16. rewind shaft 17. Extension system 18. Casters.

5.1.1 Notes

Thermal Drum

Thermal drum is the main part which needs to be maintained. Before use, keep it clean. The surface of roll is special process, don't scrub with corrosive liquids and prevent scratch by falling into objects. Slip ring with protector and temperature tester is on the left. Don't open the protector in case the electric shock. The thermal drum is filled in oil before delivery. On trail, rotated pre-heating for the drum, turn off when the surface reach 80 °C. Then set the right end of hole of drum on the max height. Loosen the screw with a wrench slowly till no air out. Then screw it. Keep heating on 120 °C, repeat the above operation three times. The machine can be used safely. Set the temperature at 80 °C、120 °C、160 °C、190 °C、230 °C respectively and get the air out when machine keep the setting temperature for 1 hour.

FUCTION SHAFT

We have 6 rollers of this machine. Unwind/rewind roller for tissue paper, unwind/rewind roller for transfer paper, unwind/rewind roller for fabric. The black hand wheel in the left cabinet is used for the friction adjusting. Adjust the friction by rotating clockwise to increase friction and anticlockwise to decrease the friction to insure good transfer quality. Adjust the hand wheel for two front shaft in order to increase the friction.

Working table

Remove the working table when use rolled fabric. Put back the working table as showed in picture for piece fabric.

Feet

6 feet is in size M20X150. During working, adjust by feet to apply on different height floor. When the machine move in short distance, adjust feet to use the wheel for moving.

Emergency switch

In emergency, press stop button to power off the machine, the roller stoproling. Clockwise the stop button, it takes up automatically. To restart the roller, press switch button on the control panel.

5.2 Rear view



1. Shaft 2. Fan 3. Separating shaft 4. Hand wheel 5. Speed controller 6. Air switch 7 Power line plug.

5.2.1 Notes

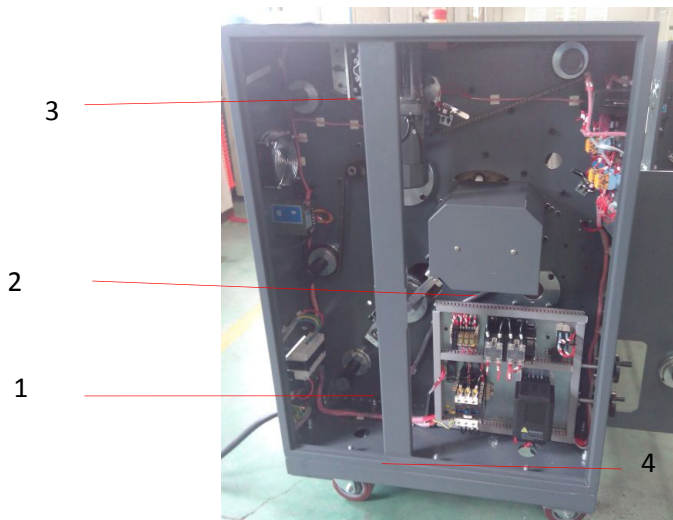
Handwheel

When there is sudden blackout and the machine is working at high temperature, rotate the hand wheel by hand immediately to separate the tank from blanket so that the hot roller does not burn the blanket

Power Cable connector

Connect power cable and close the rare of left case, reset the stop button. On the control panel, the red light of the stop is on. Then, press green button to turn on the machine, so green light is on, red light is off. Automatically turn on the temperature controller and speed conditioner.

5.3 structure of left case

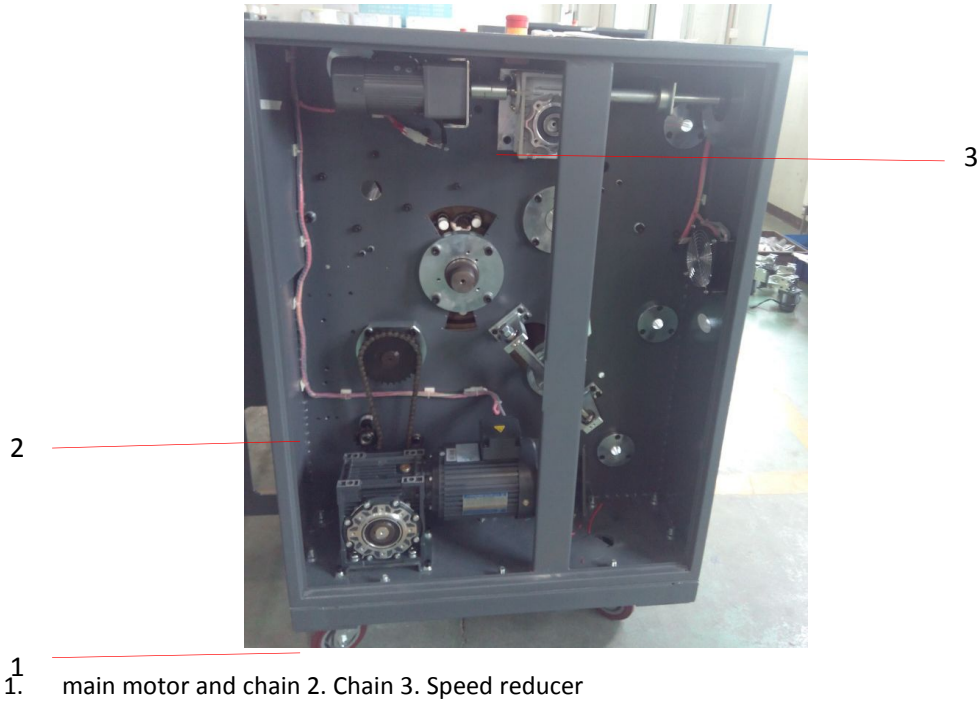


1. blanket adjustment 2. Protector case 3. Motor and chain for rewind 4. Distributor

Blanket adjustment

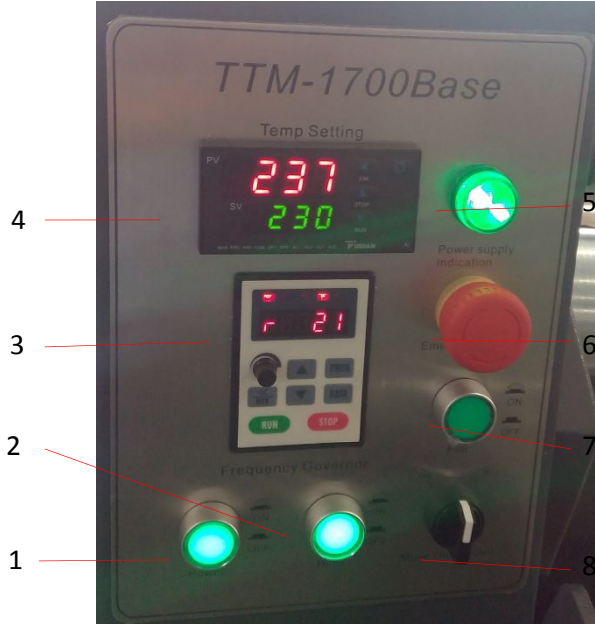
The blanket may deflect to either side during working. This is a normal. When the blanket is deflected to left side, rotate the left hand rank to move down the left defected roll, then more tension put on left. When the blanket is deflected to right side, rotate the right hand rank to move down the right defected roll, then more tension put on right.

5.4 structure of right case



1. main motor and chain 2. Chain 3. Speed reducer

5.5 Control panel



1 Power switch

Press switch to turn on the machine, start to work when the light is on. Press again the switch to turn off. The machine is stop when the temperature is 80 °C and blanket is separated from the drum.

2 Heat

Press heat, the heating display is on, the drum is on heating. Press again, the heating display is closed as well as stop heating.

3 Frequency Governor

Control the running speed, the set up range is 0-3.5m/min, suggested running speed is 1.5m/min in order to achieve better transfer performance.

4 Temp Setting

The function is controlling the heating drum. The oil is heated in the heater which is controlled by switch. **Temp Setting show the set up temp. and actual temp. The machine will alert when the temperature exceed 270°C.** Alert is on, heater stop working. The temp setting works by collecting the signal of platinum resistance. Temp setting can display the real-timing temperature of heat transfer oil

1) Temperature setting

Press adjust button, get the temperature, confirm by pressing function button. The digital is flashing(the temperature reach the set temperature, stop flash)

2) Reset the temperature without pressing function button, auto-work in 5s.

3) The temperature shown on display is the surface temperature of drum, the tolerance is less than 5 degree compared with circumstance temperature

No need to change other parameters which is set before delivery. Please read manual carefully and follow the step on manual to change the parameters. In order to expend the machine lifetime, don't adjust the temperature frequently. Press on switch gently to avoid damage

5) Power supply indication

Green light on, the machine is under power.

6) Emergency Stop

In emergency, press stop button to power off the machine, the roller stoproling. Clockwise the stop button, it takes up automatically. To restart the roller, press switch button on the control panel

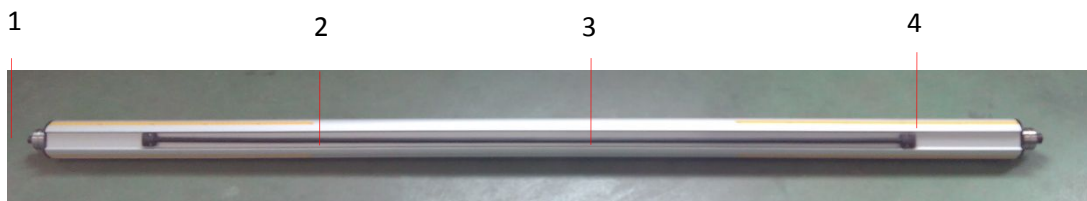
7) Fan

Make the auto-rewinding fabric cool to avoid secondary transfer.

8) Move The Blanket Backward

Turn right to feed in the blanket. Reset the button when get appropriate tension on the blanket. Turn left to take backward of the blanket. Reset the button when get the appropriate position of the blanket.

5.6 functional shaft



1 Deep groove ball bearings; 2. Aluminum shaft 3. Strip 4. Scale mark

Unwind/rewind roller for tissue paper, unwind/rewind roller for transfer paper, unwind/rewind roller for fabric. Motorized rewind roller of tissue paper and fabric ,non motorized assisted roller for tissue paper, transfer paper and fabric. Both rollers can control the transfer quality by adjusting damping.Remove the bearing roller by turn vertical then take off the end.Assembly the bearing roller by put on the end with non-tongue shaft, then turn to fix on the stand.

5.7 Spare shaft

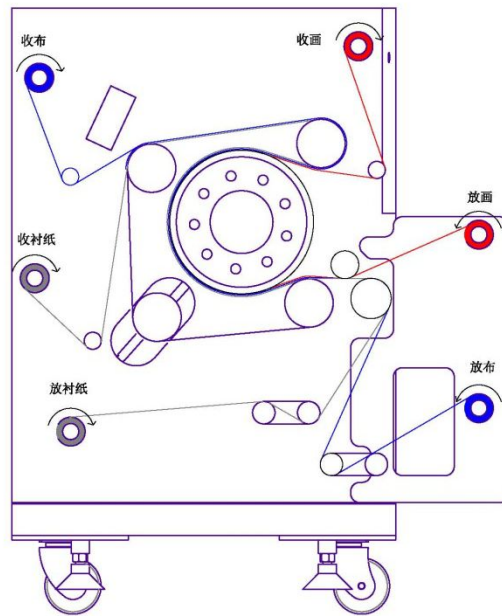


1 Deep groove ball bearings; 2 Chuck 3.stainless steel shaft

Spare shaft has the same function as function shaft, it can replace function shaft.

6 Sketch up of Processing

Before start transfer, you should know how it works.



7 processing

- 1) Before switching on the machine, make sure that all electrical wires are connected correctly.The body of the machine must be connected to ground.
- 2) Keep the blanket and roller clean. The belt can't be too tight. Feel the tension by touch the belt by palm.
- 3) Press the main power switch and transducer switch. Set up the speed
- 4) result with small piece of printed transfer paperand substrate. Adjust the temperature with reference to the testing result of the transfer to make sure the quality of mass production.
- 5) Place the printed transfer paper and fabric (to prevent the contamination of blanket) in proper roller. Feed in the belt evenly. The printed image is up and attach on the fabric.
- 6) Use the rewind roller when the transfer paper is long. Make sure the appropriate tension of roller. Adjust the tightness by damping hand crank.

- 7) Keep the hard piece away from drum. Keep clean and tidy. During operation, the operator is not allowed to leave to avoid blanket deviate and other accidents.
- 8) Keep the hard piece away from drum. Keep clean and tidy. During operation, the operator is not allowed to leave to avoid blanket deviate and other accidents.
- 9) When the transfer is finished, press heat button heating button to let the machine cool down to 80°C. Turn the knob to take backward the belt, loss until reach appropriate location.
- 10) The equipment should be maintained and checked parts regularly.

8 Notice for operation

- 1) Check the packing before unpacking.
- 2) Check the accessories according to the packing list.
- 3) There should be enough room for installation the equipment. The environment is clean, no dust, no steam and corrosive gas pollution, non-flammable materials piled up and ground is level.
- 4) Before using, keep clean on the surface of heat roller surface, the other drive roller and blankets. The heating roller surface is through a special process, avoid to cleaning by corrosive liquid and scratch by hard objects falling into the roller surface.
- 5) When it is working, if the blanket is assembled not well, it will have deviation phenomenon. Turn the knob to let the belt backward, reset the position of blanket.
- 6) During auto-separating blanket, the sprocket moves backside, some part is out of the cabinet. Please be careful to avoid hurt.
- 7) The rollers and bearing may expand and create noise when they temperature. Do not worry as it is a normal phenomenon.
- 8) Keep clean and tidy so that there is no dirt falling into electric circuit box and transducer. Do not open the protective shield of transformer to avoid electric shock.
- 9) Do not replace the parts yourself without consulting the engineers of our company. The parts must be provided or approved by our company.
- 10) Thermal oil heat quality is deterioration using at high temperature. It is recommended that take sample and analysis on a regular basis (once per year, 600ml). If HTF has been aging, you need to be replaced. Please select the appropriate pumps to connect M20x1.5 for releasing. After the injection of oil, test by heating to 120 °C and exhaust by three times, for details refer to 5.1.1. You should choose the appropriate type of oil as well as the refueling capacity. Our oil model is 320#, refueling capacity is 80L. If the customer does not operate according to the above requirements, our company have no-responsibility for any security incident.
- 11) Front fixing plate is removable; in order to avoid deformation, do not put heavy object or heavy pressure on it.
- 12) When use a forklift move the machine, put the arm under machine, people should help protect against the machine upside-down on both sides

9. Maintenance

9.1 Daily Maintenance

No.	Item		Solution
1	Switch and Lights		Repair if it is abnormal
2	Heated problem	1) Less of voltage	More voltage
		2) incoming or outgoing line is loosing	Check the circuit
3	Temperature uncontrolled	1) Solid relay broken	Replace relay
		2) Temperature controller damage	Replace temp. controller

4	Drum not rotated	1) Blanket too loosing	tension the blanket
		2) Sprocket slipping	fasten the screw
		3) Bearing stuck	Replace bearing
		4) Inverter damage	Replacement
		5) Motor or gear box damage	Replacement

Phenomenon	Cause	Solution
1. Power off	1) The supply switch of universal socket damage 2) Circuit breaker open 3) Transformer damage 4) Switch damage	<ul style="list-style-type: none"> ● Replace spare parts ● Replace spare parts ● Replace spare parts ● Replace spare parts
2. Turn on the machine, light isn't on	1) Supply voltage can't match the machine voltage 2) STOP switch is locked 3) The fuse next to the power is not installed or has been damaged	<ul style="list-style-type: none"> ● Check the voltage of supply and machine ● Unlock STOP switch ● Check if fuse
3. Power on, turn on the air switch but not trip	Heating rod damaged cause the short circuit	<ul style="list-style-type: none"> ● Check and replace heating rod
4. Motor rotated but can't adjust speed	Potentiometer damage	<ul style="list-style-type: none"> ● Replacement
5. Drive roller run abnormal	Chain is loosing	<ul style="list-style-type: none"> ● Adjust chain
6. Wave on fabric	uneven pressure on both side when feed in the fabric	<ul style="list-style-type: none"> ● Even the fabric by hand

9.2 Regular maintenance

No.	ITEM	Solution
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1	Heated problem	1) One or more heating rod burned	Replacement
		2) Thermal oil aging	Replacement
2	Drive roller maintenance		<ul style="list-style-type: none"> ● Keep clean ● Clean the surface by water or alcohol. Don't use gasoline to clean.
3	Due to the high frequency of use, blankets damage. Blanket is too loose totension		Replacement
4	Confirm the connection of head of electrical wiring		Adjustment
5	Investigate whethervibration causes of mechanical fasteners loose		Adjustment

9.3 Trouble Shooting

Phenomenon	Cause	Solution
1. Power off	1) The supply switch of universal socket damage 2) Circuit breaker open 3) Transformer damage 4) Switch damage	<ul style="list-style-type: none"> ● Replace spare parts ● Replace spare parts ● Replace spare parts ● Replace spare parts
2. Turn on the machine, light isn't on	1 Supply voltage can't match the machine voltage 2) STOP switch is locked 3) The fuse next to the power is not installed or has been damaged	<ul style="list-style-type: none"> ● Check the voltage of supply and machine ● Unlock STOP switch ● Check if fuse
3. Power on, turn on the air switch but not trip	Heating rod damaged cause the short circuit	Check and replace heating rod
4. Motor rotated but can't adjust speed	Potentiometer damage	<ul style="list-style-type: none"> ● Replacement
5. Drive roller run abnormal	Chain is loosing	<ul style="list-style-type: none"> ● Adjust chain

6. Wave on fabric	uneven pressure on both side when feed in the fabric	<ul style="list-style-type: none"> ● Even the fabric by hand ● Press the button to make the fabric move in the oil drum.
7. The fabric is lean for 10mm	The pressure is not same on both side	See the chapter of blanket adjustment

Warranty card

MODEL		SERIAL #	
BUYER		DATE	
SELLER		TELEPHONE	

NOTES

This table should be filled by seller, kept by buyer. Invalid if altered.

Standard warranty period of this machine is one year. Material and service fee will not be charged in half-year. After this period, Material and service fee will be charged.

Users are responsible for damages by improper usage.